

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

1925

- Aug. 24 Royal Air Force participation in Wembley Tattoo.
(Continuing for five weeks.)
- Sept. 19-25 Federation Aeronautique Internationale, Prague.
- Sept. 22-25 Air Force Participation in Army Manœuvres.
(Between Aldershot and Salisbury Plain.)
- Sept. Accountant Officers' Examination, R.A.F.
- Oct. 8 Aero Golfing Soc. Autumn Meeting, Walton Heath.
- Oct. 24-29 Schneider Cup Race, Baltimore, U.S.A.
- Nov. 17 Royal Air Force Cadetship Examination.

1926

- Aug. Light Aeroplane Competition.

EDITORIAL COMMENT.



Egypt-India Air Service

THE official announcement, published elsewhere in this issue of FLIGHT, that provisional heads of agreement have been concluded between the Air Ministry and Imperial Airways, Ltd., for the operation of a civil air service between Egypt and India will not, we think, be received with unmixed satisfaction. For many years past FLIGHT has advocated, in season and out, the extension of the existing air lines as the only way to make any real progress with civil aviation, and from this point of view the announcement is certainly to be welcomed. The service which has been in operation by the Royal Air Force over portions of the proposed new route has demonstrated that technically the difficulties are not insurmountable and, that being so, the time has obviously arrived when it becomes good policy to hand the route over to a civilian concern. So far, therefore, the new step must be received with satisfaction.

We are not, however, at all convinced that the best interests of the Empire will be served by handing Imperial Airways, Ltd., another monopoly. Since its formation that company has not exactly proved itself capable of, or even anxious to, strike out along lines calculated to promote real progress, and, coming as it does so soon after a clamour, in certain quarters, for further Government assistance to Imperial Airways, Ltd., the official statement concerning the latest "plum" to be handed to that company reads somewhat curiously.

What is the actual position? It is that since its inception, the "Million Pound Monopoly Company," as Imperial Airways, Ltd., has frequently been dubbed, has covered the mileage stipulated in order to earn the subsidy agreed upon, but it is common knowledge that its fleet of aeroplanes is becoming sadly depleted, and even an official answer to a question in the House of Commons could only discover twelve "efficient" aeroplanes at the disposal of Imperial Airways, Ltd. Quite apart from the fact that it would probably have been more correct to

use the term "effective," what is one to think of a monopoly company which, after more than one year of operation, has only a dozen machines fit to fly? Surely no more telling condemnation could be produced than that. Here is a company to whom the Government has granted a subsidy of one million pound sterling spread over a period of ten years, and at the end of one and a half years or so the company is in possession of rather fewer machines than when it started.

The plea cannot be advanced that there is insufficient traffic to warrant the purchase of more machines, for the French air lines are carrying something like 400 passengers every week on the Paris-London route, many of whom would undoubtedly have travelled by British machines had it been possible to do so. In the face of such evidence one can only arrive at the conclusion that the directors of Imperial Airways, Ltd., are more concerned with earning the subsidy than with making any attempt at real progress. And yet here we are on the point of handing over to the same company another monopoly on a route of real Imperial importance. Fortunately the agreement is only provisional so far, and it is to be hoped the House will have an opportunity to discuss the matter fully before the country is committed to another expenditure. The London-Paris route, and certain others with London as their terminus, are not of immediate Imperial importance, and so, apart from the apparent waste of the taxpayer's money, no great harm can be done, but the Egypt-India air route is one the vital importance of which cannot be over-estimated, and Imperial issues far more serious than the loss of a few thousand pounds are, or may be, at stake.

It is not as if the Government were tied down to Imperial Airways, Ltd., in the matter of subsidies. Under the terms of agreement with I.A.L., the Government has a perfect right to enter into negotiations with, and to grant subsidies to, other concerns outside Europe, and presumably tenders were asked for and received from interests other than Imperial Airways, Ltd. It is an old axiom that competition is good for trade, and it applies in this instance no

less than in other spheres. We do think that, the past history of Imperial Airways being what it is, it might have been better to have let another concern tackle the Egypt-India civil air service.

As regards the new air line itself, portions of it are, as we have already pointed out, known to be not too unfavourable from a technical point of view. This applies as far as Basra at any rate, and possibly as far as Bushire. But from there to Karachi, especially along the Persian Gulf, very difficult country has to be negotiated, and it would appear probable that over this last stage, and possibly over the entire route, new types of aircraft must be developed if the service is to be a success. Owing to the scarcity of suitable landing grounds the three-engined type of machine seems to be indicated, but this is a type which has hitherto been but little developed at home. Had those responsible for the policy of Imperial Airways, Ltd., shown in the past a willingness to devote some of the large subsidies to the purchase and development of new and improved flying stock, one might be justified in expecting that for the proposed route suitable machines would be obtained. As it is there is scant cause for any such supposition, and one is driven to the conclusion that what will probably happen is that in the main, machines already in existence and in use on the desert route will be taken over from the R.A.F. and used for a start, the putting into service of really up-to-date machines being deferred until such time as the monopoly company can no longer carry on effectively with their worn-out material.

Taking it all around, the official announcement concerning the new Egypt-India civil air line is very unsatisfactory, and we trust Members of Parliament who have Imperial air communications at heart will not allow the agreement to become binding, at any rate unless and until safeguards much stronger than those in force on the European sections of the airways have been taken. Probably by now things have gone too far to allow of another concern being subsidised, but there should be time to ensure that the air service in the East is not permitted to fall into a state as unsatisfactory as that obtaining nearer home.

New Deputy Air Chief

THE Air Ministry announces the appointment of Air Commodore E. R. Ludlow-Hewitt to the Royal Air Force Staff College, in command, vice Air Vice-Marshal H. R. M. Brooke-Popham, and also Air Commodore C. L. N. Newall to the Air Ministry, as Deputy Chief of the Air Staff, vice Air Vice-Marshal J. M. Steel.

Air Vice-Marshal H. R. M. Brooke-Popham, it may be recollected, has been in command of the Staff College at Andover since its inception, and in the space of a few short years secured its foundation on an equal basis as the Army and Naval colleges. It will be realised that to execute a task of such magnitude a great deal of hard work had to be carried through, numerous obstacles had to be removed, and many difficulties overcome. That Air Vice-Marshal Brooke-Popham was equal to the task the Staff College at Andover testifies by its very existence today on a plane equal to the established century-old colleges of the older services.

Air-Commodore Ludlow-Hewitt has been President of the Aerodrome Board, Air Ministry, since 1923. Mentioned six times in despatches, he received the C.M.G., D.S.O., M.C., and Legion of Honour, for services rendered during the war.

Air Commodore Newall, who was appointed a Group Captain in 1919, was attached to the School of Technical Training in 1922, and in the following year appointed A.D.C. to the King.

Flying Officer's Heroic Rescues from Burning 'Plane

As a result of an accident to a flying-boat at Calshot on Saturday, 15th inst., the wireless operator, Fred. C. Copsey, was killed. Corp. H. Essam jumped clear of the burning

'plane, and Flight-Lieut. N. Russell and Flight-Lieut. R. Collins would undoubtedly have been burned to death were it not for the courageous action of Flying Officer S. Sunnucks, who dived into the water fully clothed, and, boarding the burning 'plane, released the entrapped officers, with whom he swam with great difficulty to safety. Swimming back again, Sunnucks twice mounted the hull of the aeroplane in an effort to release Copsey, but, driven back by the flames and badly burned, he finally had to give up the attempt. Flying Officer Sunnucks has been commended for his great gallantry.

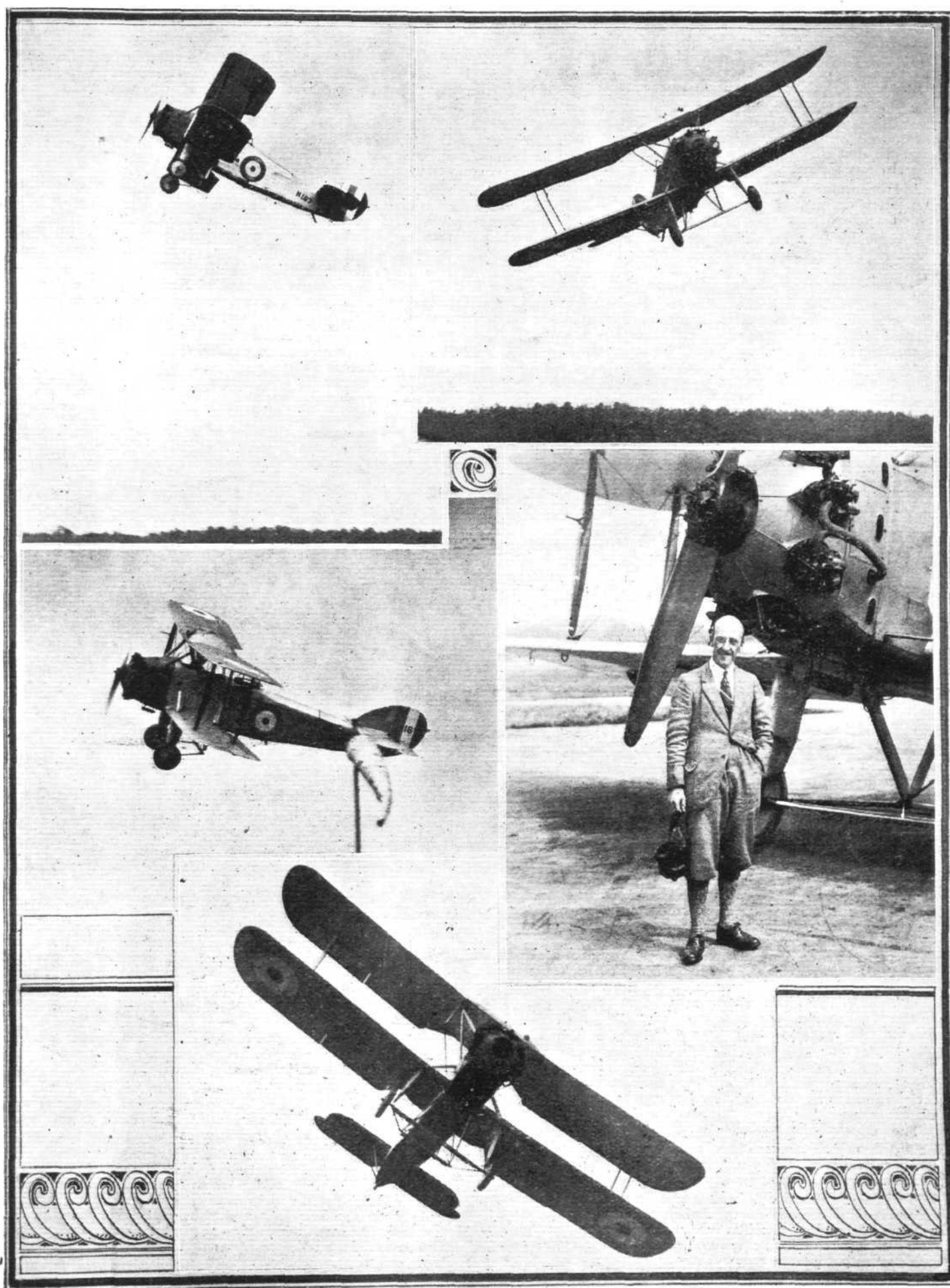
Rome-Tokio Flight

MAJOR THE MARQUIS DE PINEDO has arrived at Amboyna (Molucca Islands), and is staying three days owing to inclement weather. An Italian resident of Melbourne has promised the sum of £500 each to de Pinedo and his mechanic if they reach Rome by November 4, the date of the Armistice on the Italian front.

Opening of London Light 'Plane Club

THE official opening of the new London Light Aeroplane Club took place at the Stag Lane Aerodrome on Wednesday, August 19, the Under-Secretary of State for Air, Sir Philip Sassoon, formally declaring the club open. Sir Philip afterwards made the first flight as passenger in one of the club's two de Havilland "Moths," piloted by Mr. Sparks. The club's first lady member, Mrs. Elliot-Lynne, was also taken for a flight and was treated to a series of loops and other stunts, after which club members were given "joy rides."

TESTING A NEW MACHINE



THE HAWKER "HEDGEHOG" : A three-seater Fleet Reconnaissance machine with Bristol "Jupiter" engine. By the courtesy of the H. G. Hawker Engineering Company our photographer was able recently to secure these photographs of the machine in flight. The photograph of Flight-Lieut. Bulman, who is now chief test pilot to this firm, gives a good idea of the size of the "Hedgehog." (See also pp. 542 and 543.)

THE BEARDMORE W.B. XXVI

A Two-Seater Fighter of Unorthodox Design and fitted with 375 H.P. Rolls-Royce "Eagle IX"

THE first "large" aeroplane to be designed by Mr. W. S. Shackleton after joining William Beardmore and Co., Ltd., and which is now nearing completion, is the W.B. XXVI, which forms the subject of our scale drawings this week. The machine is of somewhat unusual design, and incorporates a number of interesting features. The W.B. XXVI was specially designed for use as a high-performance two-seater fighter, and Mr. Shackleton chose the biplane arrangement, partly on account of its greater rigidity and lower weight, and partly to provide a better field of view. At the same time he has made an attempt to equal, or at any rate approach, the monoplane type in aerodynamic efficiency by the suppression of wing bracing wires and by using a large gap/cord ratio.

Unfortunately, photographs of the finished machine are not available, but the scale drawings give a very fair idea of the general arrangement, while certain features, not readily detected in the scale drawings, are shown in the photograph of the wind tunnel model. It will be seen that the flat-sided fuselage is of fairly small cross-sectional area, and is not directly attached to either upper or lower plane, the top plane roots being anchored to cabane struts from the top longerons, and the lower plane centre-section bolted to a fin built integral with the bulkheads of the fuselage.

vertically, an angle of 10 degrees only beyond the vertical being obstructed by the fuselage. In order to improve the field of fire aft, the vertical fin is of the cantilever type without external bracing, while the tail plane is braced by one strut on each side, running to the lower longerons. There is thus no risk of the gunner accidentally shooting away any bracing struts of the tail.

The Fuselage

The fuselage is built up of spruce longerons with bulkheads of spruce and three-ply. The covering is in the form of birch three-ply, so that once the fuselage is erected there is no trueing up to be done to it, and it should require a minimum of attention in service. The fuselage is subsequently covered with fabric to protect the joints, and is painted and doped to give a watertight surface. The fin carrying the lower plane, etc., is, as already mentioned, built integral with the fuselage bulkheads so as to obtain the necessary rigidity in the wing structure. A fireproof bulkhead is fitted at the front of the fuselage, and all parts forward of this are of steel. The engine bearer is of simple and rigid type and is specially designed to allow of the rapid removal of the complete engine unit.

The engine is a 375 h.p. Rolls-Royce "Eagle IX," totally cowled-in with the exception of the exhaust collectors, and a



The Beardmore W.B. XXVI, 375 h.p. Rolls-Royce "Eagle IX" engine. This photograph shows the wind tunnel model of the machine.

The biplane wings are rigidly braced by three struts on each side, one being the interplane I-strut with forked ends, and the other two compression struts running from the top longerons to the lower wing spars. The attachment to the fuselage is by pin joints, so that the wings can be quickly dismantled and re-erected. Furthermore, no adjustment of any kind is necessary after the final trueing up of the machine, the wings being rigidly locked in position merely by inserting the necessary bolts and pins. This feature should be particularly valuable in the field, and should save a great deal of time.

The pilot's and gunner's cockpits are placed very close together, so that the closest co-operation between them should be possible, and the view from both cockpits should be particularly good, the more so as the top plane is thinned-down towards the centre so as to enable the crew to look over or under it with a minimum of obstruction.

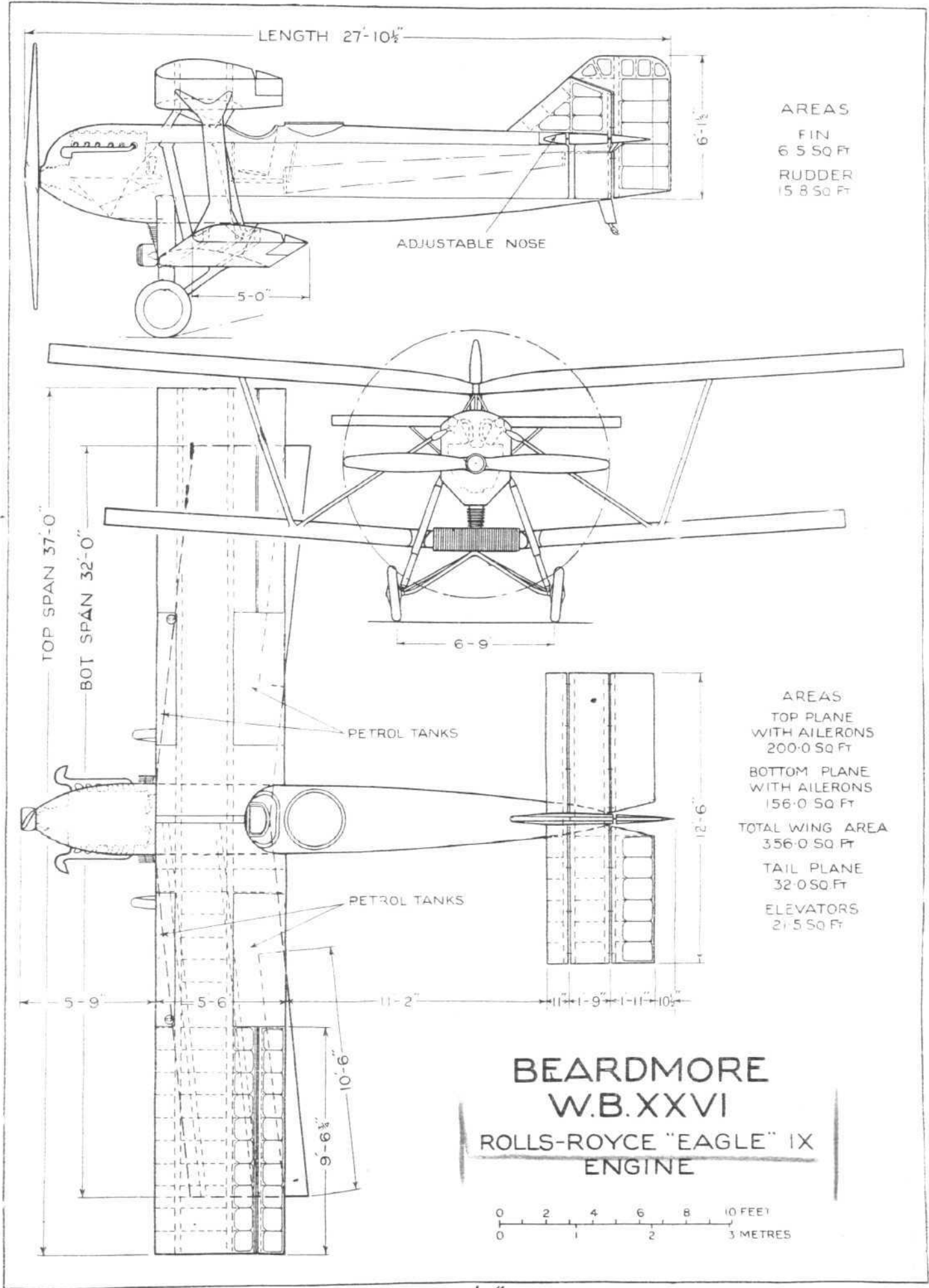
The armament consists of three Beardmore-Farquhar machine guns: two fixed guns firing through the propeller and controlled by the Constantisco interrupter gear, and the third operated by the gunner and mounted on the usual Scarff gun-ring. The rear gun is so mounted in relation to the wings and fuselage that it can be operated almost throughout the entire upper hemisphere, while in a downward direction, owing to the fact that the gunner's cockpit is aft of the trailing edge of the lower plane, the gun can be fired almost

particularly neat nose has been made possible by employing a special type of Lamblin radiator. This radiator is located on the leading edge of the bottom centre section, a position which combines the advantage of good accessibility with very small drag.

The petrol tanks are mounted in the top plane, one ahead of the front spar and one aft of the rear spar, on each side, and are shaped to follow the curves of the wing section. Owing to the height above the carburettor, this arrangement of the tanks simplifies the petrol system by giving direct gravity feed, and the fact of having a set of tanks on each side should considerably minimise the risk of the machine being brought down by machine gun bullets piercing all the tanks.

Wing Structure

Although differing somewhat in size, the upper and lower planes are of identical construction, each comprising two box spars of spruce with ribs made of spruce and three-ply. The whole of the wing, from the leading edge to the back spar, is covered with ply wood, a form of construction which gives great resistance against drag forces and stiffens the wings considerably against torsional loads. Ailerons are fitted on both top and bottom planes, and are operated by direct-acting rods and cables, the whole of the mechanism being carried inside the wings, with sliding doors for adjustment and inspection of various parts. The two lift struts running



The Beardmore W.B. XXVI, Rolls-Royce "Eagle IX" engine. General Arrangement Drawings, to scale

from the fuselage down to the bottom plane are of steel tubing, with duralumin fairings riveted on. Only one of these struts is adjustable, and, as already pointed out, when this has once been screwed up there is no necessity for further adjustment. The interplane I-strut is of built-up duralumin plate, and is faired off to a streamline form. Adjustment is provided at top and bottom, on the rear spar only, so that the correct angle of incidence may be obtained when the machine is being erected in the first instance. The wings are covered with linen fabric laid on at an angle of 45° to the leading edge. This method of applying the fabric considerably increases the resistance of the wing against drag forces, and has the further advantage of confining any tears to a small locality, as the tear cannot spread beyond the nearest rib.

The Undercarriage

The undercarriage is of all-metal construction, and contains no rubber or other perishable material. The landing shocks are taken on a novel system of spiral springs under compression which are provided with a special patented system of damping in which Ferrodo friction blocks are employed to prevent the machine from bouncing. The telescopic front legs of the undercarriage run to the lower longerons of the fuselage, while the bent axles and rear chassis struts are connected to the vertical fin at the points of attachment of the lower wing spars. It might be mentioned that a special feature of the undercarriage is the long travel provided, which is no less than 9½ ins., so that landings on even very rough ground should be possible.

The Tail Unit

Reference has already been made to the fact that the tail unit has been designed with a minimum of bracing, so as to improve the gunner's field of fire. A novel feature of the tail plane is that instead of the usual trimming tail, which is somewhat difficult to carry out on a cantilever or semi-cantilever structure, Mr. Shackleton has designed a hinged leading edge operated from the cockpit, which has the effect of giving a positive or negative camber of the tail plane instead of the more usual positive or negative angle of incidence. It is possible, by suitable adjustment of this leading edge, to obtain a neutral trim or "feel" of the control lever at all flying speeds. The tail skid is of all-metal construction, and landing shocks are taken by steel springs. Practically no replacement should be required in service beyond renewing the tail skid shoe, which is made readily detachable.

The main dimensions of the Beardmore W.B. XXVI are shown on the general arrangement drawings. The following are the item weights of the machine: Weight empty (without armament), 2,555 lbs.; petrol (75 galls.), 545 lbs.; oil, 50 lbs.; water, 70 lbs.; pilot and gunner, 340 lbs.; armament (three guns and ammunition), 320 lbs.; oxygen apparatus, camera, etc., 100 lbs.; total loaded weight, 3,980 lbs. Power loading, 10 lbs./h.p.; wing loading, 11.18 lbs./sq. ft. The following are the estimated performances: Top speed at ground level, 145 m.p.h.; landing speed, 57 m.p.h.; climb to 15,000 ft. in 20 mins. Ceiling, 20,000 ft.; duration, approximately 4 hrs. at cruising speed.

FRENCH AIRMEN'S FLIGHT ROUND EUROPE

ON Monday, the 10th inst., Capt. Arrachard and M. Carol set out from Le Bourget aerodrome at 4.45 a.m. on a flying tour round Europe, the other three corners of the proposed quadrilateral being Constantinople, Moscow and Copenhagen. In the tour the two airmen visited six European capitals, excluding Paris, i.e., Belgrade, Constantinople, Bucharest, Moscow, Warsaw and Copenhagen, the actual flying time for the 4,625 miles being 38 hrs. 35 mins. Passing over Turin at 11 a.m., Capt. Arrachard arrived at Belgrade at 12.45 p.m., and after a two-hours' rest in the Yugoslav capital, set off again, reaching Constantinople at 6 o'clock, having thus covered the 1,400 miles between Paris and the Bosphorus in 12 hrs. 45 mins. The adventurers' plan of breakfasting in Paris, lunching at Belgrade and dining in Constantinople, all within the daylight hours of one day, was thus carried into effect. At 3.10 a.m., on August 11, the latter city was left behind and Bucharest reached at 7 a.m., where a three-hours' stay was made. The next "leg" of 937½ miles (Bucharest to Moscow), was completed in 8 hrs. 15 mins., despite the hindrance imposed by dense mist, which necessitated the steering by compass alone. Five a.m. (August 12) again marked the start of a day's strenuous flying, in which 1,906½ miles had to be covered by the same machine which had done so much hard work on

the two previous days. There were numerous sceptics who doubted if the 2,000 miles between Moscow and Paris would be covered, taking all the circumstances into account, that day, and who were in turn fairly confounded at Capt. Arrachard's arrival at 9.17 p.m. Warsaw was reached in 5 hrs. 55 mins., and after a short stay the aviators set their faces for Copenhagen, a distance of 500 miles, which was accomplished in four hours. Here they were received by the Danish naval and military authorities, and cordially welcomed. Refilling their tanks and a rapid inspection of their machine, with a few minutes for refreshment once again sufficed for Capt. Arrachard, who within an hour of his arrival was in the air en route for Paris, this being the last "lap" of the tour. Throughout Capt. Arrachard had worked with clock-like precision, and kept rigidly to the "times" conceived in his plan, despite heavy rainstorms and fog. From Copenhagen to Paris (678½ miles) was covered in 5 hrs. 40 mins. A few minutes before 9.15 the immense concourse which had gathered to witness his arrival heard the buzzing of the machine as it loomed over the skyline, and in a magnificent curve the machine swooped down, the two heroes on alighting receiving a warm welcome. The machine employed was a two-seater Potez biplane, with a 450-h.p. Lorraine-Dietrich engine.

The Duke of York at Wembley: Our photograph shows His Royal Highness inspecting an A.D.C. "Cirrus" engine at the Air Ministry Stand in the Palace of Housing and Transport. Next to H.R.H. is Sqdr.-Ldr. P. R. Burchall, of the Air Ministry.



LYMPNE AUGUST MEETING

OFFICIAL RESULTS

SATURDAY, AUG. 1.—LIGHT AEROPLANE HOLIDAY HANDICAP, 50 MILES

Heat 2

Machine and No.	Handicap Allowance	Lap 1	Lap 2	Lap 3	Lap 4	Order of Finish.	Handicap Time.	Net Flying Time.	Speed.
	m. s.	m. s.	m. s.	m. s.	m. s.		m. s.	m. s.	m.p.h.
Avro "Avis" .. G-EBKP..	13 12	12 2	11 38	11 35	11 38	3rd	46 53	46 53	63.98
D.H. 53 .. G-EBHX..	12 33	12 18	10 45	11 8	10 54	1st	45 44	45 5	66.54
Sopwith "Cygnet" .. G-EBMB..	9 51	28 23	10 55	10 45	10 50	6th	64 14	60 53	49.27
D.H. 53 .. G-EBHZ..	7 28	10 38	10 13	10 14	9 58	2nd	46 47	41 3	73.08
Wee Bee I .. G-EBJJ ..	7 20	10 58	10 26	10 40	10 32	4th	48 28	42 36	70.42
A.N.E.C. .. G-EBIL ..	Scratch	12 18	9 41	9 35	9 23	5th	53 59	40 57	73.26

Heat 2

Parnall Pixie III.. G-EBKK	14 12	11 35	10 41	10 41	11 1	1st	43 58	43 58	68.23
Short Monoplane .. G-EBJU ..	11 18	Retired							
Bristol Brownie .. G-EBJM	10 8	11 30	10 53	11 2	10 56	4th	48 25	44 21	67.60
R.A.E. Hurricane .. G-EBHS	7 13	11 0	10 7	10 6	9 39	3rd	47 51	40 52	73.41
Pander .. H-NACN..	6 58	N.S.							
Parnall Pixie II .. G-EBKM	6 29	9 38	8 50	8 55	9 0	2nd	44 53	36 23	82.45
Cranwell Monoplane .. G-EBMC	1 0	11 9	Retired						

Final

Parnall Pixie III .. G-EBKK	7 43	11 0	10 20	10 17	Retired				
Avro "Avis" .. G-EBKP	6 43	12 5	11 40	11 22	11 11	3rd	47 18	46 18	64.80
D.H. 53 .. G-EBHX	6 4	11 57	11 23	10 42	10 50	2nd	46 31	44 52	66.86
D.H. 53 .. G-EBHZ	0 59	10 24							
R.A.E. Hurricane .. G-EBHS	0 44	11 0	10 7	10 6	9 39	1st	45 21	40 52	73.41
Parnall Pixie II .. G-EBKM	Scratch	9 40	9 16	9 33	Retired				

SATURDAY, AUG. 1.—TWO SEATER LIGHT AEROPLANE SCRATCH SPEED RACE, 50 MILES

Machine and No.	Lap 1.	Lap 2.	Lap 3.	Lap 4.	Net Flying Time.	Order of Finish.	M.P.H.
	m. s.	m. s.	m. s.	m. s.	m. s.		
Wee Bee I .. G-EBJJ ..	11 42	10 43	11 17	11 25	45 7	1st	66.49
Sopwith "Cygnet" .. G-EBMB ..	12 10	11 24	11 14	10 41	45 29	2nd	65.95

SATURDAY, AUG. 1.—SINGLE SEATER LIGHT AEROPLANE SCRATCH SPEED RACE, 50 MILES

Parnall Pixie II .. G-EBKM ..	10 2	9 13	9 17	9 14	37 46	2nd	79.43
Cranwell Monoplane .. G-EBMC ..	9 57	8 52	8 51	8 58	36 38	1st	81.89
D.H. 53 .. G-EBHX ..	Retired						
A.N.E.C. .. G-EBIL ..	10 56	9 26	9 36	9 27	39 25	3rd	76.11

MONDAY, AUG. 3.—INTERNATIONAL HANDICAP, 100 MILES

Heat 1

Machine and No.	Handicap Allowance.	Lap 1.	Lap 2.	Lap 3.	Lap 4.	Lap 5.	Lap 6.	Lap 7.	Lap 8.	Position	Handicap Time.	Net Flying Time.	M.P.H.
	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.		h. m. s.	h. m. s.	
Sopwith Cygnet .. G-EBMB	38 46	10 57	10 20	10 1	9 59	10 5	9 58	10 2	9 47	1st	1 21 9	1 21 9	73.93
R.A.E. Hurricane .. G-EBHS	29 11	9 49	Retired										
Sopwith Gnu .. G-EADB	20 56	8 52	8 36	8 34	8 38	8 32	8 36	8 34	8 38	4th	1 26 50	1 9 0	86.95
Bristol Lucifer .. G-EBGD	20 10	8 19	7 55	7 54	7 56	7 55	7 57	7 53	7 51	2nd	1 22 16	1 3 40	94.24
Avro 504 N. .. G-EBKQ	9 54	7 48	7 27	7 31	7 29	7 30	7 26	7 33	7 35	5th	1 29 11	1 0 19	99.47
Bristol Bloodhound .. G-EBGG	1 8	6 12	5 58	5 53	5 57	5 57	5 53	5 56	5 55	3rd	1 25 19	0 47 41	125.70
Martinsyde F. 6 .. G-EBDK	Scratch	9 8	7 17	7 13	7 8	7 16	7 19	7 19	7 14	6th	1 38 40	0 59 54	100.16

Heat 2

Bristol Brownie .. G-EBJM	40 20	11 2	10 24	10 41	10 39	10 40	10 29	10 23	10 24	1st	1 24 52	1 24 52	70.69
Pander .. H-NACN	32 45	13 8	13 6	13 40	14 32	13 53	13 31	12 58	13 25	8th	1 55 48	1 48 13	55.44
D.H. Moth .. G-EBKT	24 36	9 21	8 50	8 47	8 44	8 42	8 44	8 44	8 42	2nd	1 26 18	1 10 34	85.02
D.H. Moth .. G-EBKU	24 36	9 17	8 53	8 52	8 49	8 45	8 47	8 46	8 40	3rd	1 26 33	1 10 49	84.72
Parnall Pixie II .. G-EBKM	22 31	9 28	9 3	9 4	8 48	8 50	8 53	8 51	8 42	5th	1 29 28	1 11 39	83.74
Cranwell Monoplane .. G-EBMC	21 31	9 15	8 33	8 40	8 28	8 35	8 25	8 24	8 18	4th	1 27 27	1 8 38	87.42
Airdisco Avro .. G-EBHK	15 54	9 12	8 48	8 46	8 42	8 43	8 43	8 41	8 39	6th	1 34 50	1 10 14	85.42
Sopwith Scooter .. G-EACZ	1 44	8 13	7 42	7 40	7 44	7 35	7 41	7 40	7 39	7th	1 40 30	1 1 54	96.93

Final

Bristol Brownie .. G-EBJM	40 20	11 15	10 32	10 30	10 35	10 24	10 43	10 35	10 32	3rd	1 25 6	1 25 6	70.50
Sopwith Cygnet .. G-EBMB	38 46	11 1	10 14	10 5	10 9	9 49	10 9	10 1	10 4	1st	1 23 6	1 21 32	75.58
D.H. Moth .. G-EBKT	24 36	9 20	8 41	8 46	8 42	8 43	8 43	8 44	Retired				
D.H. Moth .. G-EBKU	24 36	9 17	8 43	8 43	8 39	8 46	8 43	8 48	8 49	4th	1 26 12	1 10 28	85.14
Bristol Lucifer .. G-EBGD	20 10	8 20	7 58	7 58	7 53	7 58	7 58	8 1	7 57	2nd	1 24 13	1 4 3	93.69
Bristol Bloodhound .. G-EBGG	1 8	6 14	5 53	5 55	5 56	5 56	5 57	5 57	5 56	5th	1 26 56	0 47 44	125.67

LYMPNE AUGUST MEETING—Official Results (continued)

MONDAY, AUG. 3—GROSVENOR CHALLENGE CUP, 100 MILES

Machine and No.	Handicap Allowance.	Lap. 1.	Lap. 2.	Lap. 3.	Lap. 4.	Lap. 5.	Lap. 6.	Lap. 7.	Lap. 8.	Handicap Time. Net Flying Time.	Position and m.p.h.
Avro "Avis," G-EBKP ..	m. s. 19 48	m. s. 11 59	m. s. 11 17	m. s. 11 34	m. s. 11 27	m. s. 11 20	m. s. 11 33	m. s. 11 22	m. s. 11 19	1 31 51	5th.
Bristol "Brownie," G-EBJM..	18 49	11 9	10 32	10 35	10 37	10 47	10 48	10 42	10 35	1 31 51	65.32.
Sopwith "Cygnets," G-EBMB	17 15	10 26	9 52	9 56	9 56	10 8	10 8	Retired.	—	1 26 44	2nd.
D.H.53, G-EBHX ..	17 15	12 8	Retired.	—	—	—	—	—	—	1 25 45	70.03.
Parnall "Pixie III," G-EBKK	15 9	10 52	10 21	10 22	10 10	Retired.	—	—	—	—	—
D.H.53, G-EBHZ ..	12 2	10 59	10 30	10 44	10 28	Retired.	—	—	—	—	—
R.A.E. Hurricane, G-EBHS ..	7 40	9 31	9 21	9 16	9 14	9 16	9 22	9 10	8 44	1 26 2	1st.
Wee Bee I, G-EBJJ ..	6 42	10 19	9 29	9 34	9 23	9 25	9 41	9 41	9 41	1 13 54	81.19.
D.H. "Moth," G-EBKU ..	3 5	14 20	9 11	9 12	9 7	9 7	9 1	9 4	Retired.	1 30 19	4th.
A.N.E.C., G-EBIL ..	1 49	10 52	9 30	9 21	9 12	Retired.	—	—	—	1 17 13	77.70.
Parnall "Pixie II," G-EBKM	1 0	9 28	8 58	8 57	9 1	9 11	9 12	9 13	9 4	1 31 52	6th.
Cranwell Monoplane, G-EBMC	Scratch.	9 4	8 35	8 36	8 36	8 39	8 38	8 25	8 28	1 13 4	82.11.
										1 28 49	3rd.
										1 9 1	86.93.

MONDAY, AUG. 3—PRIVATE OWNERS' HANDICAP, 50 MILES

Machine and No.	Handicap Allowance.	Lap. 1.	Lap. 2.	Lap. 3.	Lap. 4.	Handicap Time.	Net Flying Time.	Lap.	Position.
R.A.E. Hurricane, G-EBHS	m. s. 14 35	m. s. 9 38	m. s. 9 4	m. s. 9 0	m. s. 9 5	m. s. 38 58	m. s. 36 47	m.p.h. 81.55	1st.
S.E.5A, G-EBCA ..	12 31	9 40	9 5	8 52	8 26	40 18	36 3	83.21	3rd.
Cranwell Monoplane G-EBMC	10 45	8 54	8 30	8 28	8 29	40 22	34 21	87.33	4th.
Sopwith "Gnu," G-EADB	10 28	9 8	8 52	8 48	8 54	42 0	35 42	84.86	5th.
Austin "Whippet," G-EAPF	13 52	9 55	9 8	9 4	8 59	40 0	37 6	80.86	2nd.
Sopwith Scooter, G-EACZ..	0 52	8 3	7 44	7 41	7 41	47 3	31 9	96.30	7th.
Martinsyde F.6, G-EBDK..	Scratch.	7 43	7 18	7 14	7 18	46 19	29 33	101.52	6th.

CERTIFIED PERFORMANCES

On Sunday, August 2, the following Certified Performances were recorded:

Greatest Speed over 3 kilometres.—Cranwell Monoplane, G-EBMC, first lap, 1 m. 23.6 s.; second lap, 1 m. 12.2 s.; third lap, 1 m. 24.8 s.; fourth lap, 1 m. 8.2 s.; total time, 5 m. 8.8 s. Speed for 3 km., average 1 m. 17.2 s. = 139.89 km./h. = 86.92 m.p.h.

Parnall "Pixie II," G-EBKM, first lap, 1 m. 27.2 s.; second lap, 1 m. 13.2 s.; third lap, 1 m. 27 s.; fourth lap, 1 m. 14 s.; total time, 5 m. 21.4 s. Speed for 3 km., average 1 m. 20.35 s. = 134.41 km./h. = 83.51 m.p.h.

Pander Monoplane, H-NACN, first lap, 1 m. 52.4 s.; second lap, 1 m. 30.4 s. Total time, 3 m. 22.8 s. These were the only two times recorded, giving an average speed of 106.5 km./h = 66.17 m.p.h.

Greatest Speed over 50 km.—A.N.E.C. Monoplane, G-EBIL, first lap, 7 m. 38 s.; second lap, 7 m. 14.4 s.; third lap, 7 m. 30.8 s.; net flying time, 22 m. 23.2 s. = 134.01 km./h = 83.26 m.p.h.

Parnall "Pixie II," G-EBKM, first lap, 7 m. 5.8 s.; second lap, 7 m. 19 s.; third lap, 7 m. 25.4 s.; net flying time, 21 m. 50.2 s. = 137.38 km./h. = 85.36 m.p.h.

Cranwell Monoplane, G-EBMC, first lap, 7 m. 20.4 s.; second lap, 7 m. 21.6 s.; third lap, 7 m. 26.4 s.; net flying time, 22 m. 8.4 s. = 135.50 km./h. = 84.19 m.p.h.

Class I. Height in a Given Time (30 minutes).—"Wee Bee I," G-EBJJ, 8,100 ft.; Hawker "Cygnets," G-EBMB, 6,435 ft.; Pander Monoplane, H-NACN, 4,515 ft.

Class IV. Maximum Height.—"Wee Bee I," G-EBJJ, 11,650 ft.

On Sunday, August 2, the following official results were recorded in Private Races:—

No. 1. D.H. "Moth," G-EBKT v. D.H. "Moth," G-EBKU, two circuits of short course = 33.32 kms. (scratch start). First circuit: G-EBKT, 7 m. 46.8 s.; G-EBKU, 7 m. 50.2 s.; second circuit: KT, 7 m. 22.6 s.; KU, 7 m. 25.6 s.; net time, KT, 15 m. 9.4 s.; KU, 15 m. 15.8 s. Winner, G-EBKT. Average speed, 131.90 km./h. (81.95 m.p.h.).

No. 2. Parnall "Pixie III," G-EBKK v. D.H. 53, G-EBHX. One circuit of short course = 16.66 km. (scratch start). KK, 10 m. 20.4 s.; HX, 10 m. 20.6 s. Winner, G-EBKK. Speed, 96.67 km./h. (60.06 m.p.h.).

No. 3. D.H. "Moth," G-EBKU, v. R.A.E. "Hurricane," G-EBHS.—One circuit of the short course = 16.66 km. (handicap conditions). HS, 0 m. 24 s. handicap allowance, KU scratch. KU, 8 m. 42.6 s.; net time, 8 m. 18.6 s. HS, 8 m. 43 s.; net time, 8 m. 43 s. Winner, G-EBKU. Speed, 120.3 km./h. (74.75 m.p.h.).

No. 4. Parnall "Pixie III," G-EBKK v. R.A.E. "Hurricane," G-EBHS.—One circuit of short course = 16.66 km. (handicap conditions). KK, 0 m. 48 s. start; HS, scratch. HS, 9 m. 24.4 s.; net time, 8 m. 36.4 s. KK, 9 m. 24.8 s., net time, 9 m. 24.8 s. Winner, G-EBHS. Speed, 116.14 km./h. (72.16 m.p.h.).

No. 5. D.H. "Moth," G-EBKT v. D.H. 54, G-EBKI.—Two circuits of short course = 33.32 km. (handicap conditions). KT, 1 m. 59 s. start; KI, scratch. KI, first lap, 6 m. 6.4 s.; second lap, 5 m. 54.4 s.; net time, 12 m. 0.8 s. handicap time, 13 m. 59.8 s. KT, first lap, 7 m. 35 s.; second lap, 7 m. 26.6 s.; net time, 15 m. 1.6 s.; handicap time 15 m. 1.6 s. Winner G-EBKI. Speed, 166.41 km./h. (103.40 m.p.h.).

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

THE COMMITTEE

A MEETING of the Committee was held at the Royal Aero Club, 3, Clifford Street, W.1, on Wednesday, July 22, 1925, when there were present:—Lieut.-Col. F. K. McClean, A.F.C., in the chair; Mr. Ernest C. Bucknall, Lieut.-Col. M. O. Darby, O.B.E., Brig.-Gen. Sir Capel Holden, K.C.B., F.R.S., Wing Commander T. O'B. Hubbard, M.C., A.F.C., Col. F. Lindsay Lloyd, C.M.G., C.B.E., Lieut.-Col. A. Ogilvie, C.B.E., Lieut.-Col. M. O'Gorman, C.B., Maj. S. V. Sippe, D.S.O., and the Secretary.

Election of Members.—The following new Members were elected:—

Pilot Officer Brian Broadbent Dowling.
Norman William George Blackburn.
Flying Officer Hugh Joseph Young.
Pilot Officer Charles Ronald Hancock.
Flight-Lieut. Herbert Martin Massey.
Robert Lambart Dunville.
Capt. Wilfrid Dancy.
Flying Officer Guybon Ebdon Fitzgerald Boyes.
Capt. Philip Gilbert Robinson.
Duncan Sinclair.
Lucindo Locatelli.

Racing Committee.—The reports of the Racing Committee held on July 2, 3 and 13, were received and confirmed.

The following items were included in the Report: King's Cup Air Race; Air League Challenge Cup.

King's Cup Air Race.—The Judge's report of the result of the King's Cup Air Race was received as follows:—

(1) Rt. Hon. Sir Eric Geddes, G.C.B., G.B.E. Siskin V. Armstrong Siddeley "Jaguar," 395 h.p. Pilot: Capt. F. L. Barnard.

(2) Sir Glynn Hamilton West. Siskin IV. Armstrong-Siddeley "Jaguar," 395 h.p. Pilot: Sqdn.-Leader H. W. G. Jones, M.C.

(3) A. S. Butler. D.H.37. Rolls-Royce "Falcon," 275 h.p. Pilot: Maj. H. Hemming, A.F.C.

A unanimous vote of thanks was passed to the Turning Point officials, Capt. R. J. Goodman Crouch, the Handicapper, and Aircraft Disposal Co. for providing accommodation for the competing aircraft.

Royal Aeronautical Society.—Lieut.-Col. A. Ogilvie was appointed delegate to represent the Royal Aero Club at the Conference of Aeronautical Bodies to be convened by the Royal Aeronautical Society.

F.A.I. Conference, Prague.—Lieut.-Col. M. O'Gorman was appointed the Club's delegate at the Conference of the F.A.I. to be held at Prague on September 19-28 next.

Certificate of Performance.—The following Certificate of Performance was granted to Messrs. W. Beardmore and Co. Ltd.:—

Type	"Wee Bee" I.
Constructor ..	Messrs. W. Beardmore and Co.
Engine	"Bristol" Cherub.
Pilot	A. N. Kingwill.
Place	Renfrew.
Date	June 18, 1925.
Performance, Height	4,136 metres (13,566 ft.).

Racing Fund.—The following donation was reported:—

GLoucestershire Aircraft Co., Ltd. £100.

A unanimous vote of thanks was passed to the Directors of the Gloucestershire Aircraft Co., Ltd., for their generous support to the Racing Fund.

Aviator's Certificates.—The following Aviator's Certificates were granted:—

7968—John Mathew Byrne	May 23, 1918.
7969—Philip Gadesden Lucas	June 2, 1925.
7970—Lieut. Lachlan Donald Mackintosh	July 1, 1925.

JOINT STANDING COMMITTEE

A MEETING of the Joint Standing Committee of S.B.A.C. and R.A.C. was held on Wednesday, July 22, 1925, when

there were present: Royal Aero Club: Lieut.-Col. F. K. McClean, A.F.C., in the chair, Lieut.-Col. W. A. Bristow. Society of British Aircraft Constructors: Capt. H. E. P. D. Acland, Commander James Bird, Mr. H. T. Vane. In attendance: Mr. H. Burroughes, representing Gloucestershire Aircraft Co., Mr. C. V. Allen, Secretary, S.B.A.C., Mr. H. E. Perrin, Secretary, R.Ae.C.

The following questions were considered: Insurance in international air races; Schneider Cup race; handicapping formula; limit of landing speeds in high-speed races.

LYMPNE AIR RACES

Private Owners' Handicap.—The Stewards of the meeting met on Thursday, August 13, 1925, to consider a protest against the placings in the above race. Owing to a mistake by the starting officials, Flight-Lieut. F. O. Soden was started 5 min. 20 secs. late. When this time had been allowed, he was placed second.

The Stewards decided that a mistake by the starting officials could not be rectified after the race had started, and the protest was upheld. The placings were therefore altered as follows:—

1. Royal Aircraft Establishment Aero Club.
2. Dr. E. D. Whitehead Reid.

Stewards: Lieut.-Col. F. K. McClean and Air Commodore F. C. Halahan, C.M.G.

AUGUST RACE MEETING, LYMPNE

August 1, 2 and 3, 1925

The following prizes have been paid by the Royal Aero Club to the entrants in the following events:—

Light Aeroplane Holiday Handicap

Heat I. Capt. G. de Havilland, £25.
Heat II. George G. Parnall, £25.
Final. 1. R.A.E. Aero Club, Farnborough, £100; 2. Capt. G. de Havilland, £25.

Two-Seater Light Aeroplane Scratch Speed Race

1. Lord Invernairn, £50.

Single-Seater Light Aeroplane Scratch Speed Race

1. Cranwell Light Aeroplane Club, £50.

International Handicap

Heat I. T. O. M. Sopwith and F. Sigrist, £25.
Heat II. Sir G. Stanley White, £25.
Final. 1. T. O. M. Sopwith and F. Sigrist, £150; 2. H. J. Thomas, £50.

Grosvenor Challenge Cup

1. P. N. G. Peters, R.A.E. Aero Club, Farnborough, £100;
2. Sir G. Stanley White, £50.

Private Owners' Handicap

1. R.A.E. Aero Club, Farnborough, £100; 2. Dr. E. D. Whitehead Reid, £25.

Private Sweepstake Races

A. J. Cobham, £10; Sq.-Leader R. A. de H. Haig, £10;
Capt. H. S. Broad, £10; Flight-Lieut. J. S. Chick, £10;
De Havilland Aircraft Co., £10.

Certified Performances

Class I. Height in a given time (30 minutes).—Lord Invernairn, £25.

Class II. Greatest speed over 3 km.—Cranwell Light Aeroplane Club, £25.

Class III. Greatest speed over 50 km.—George G. Parnall, £25.

Class IV. Height (maximum).—Lord Invernairn, £25.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W.1.
H. E. PERRIN, Secretary

THE R.A.F. AND ARMY MANŒUVRES

By MAJOR F. A. DE V. ROBERTSON, V.D.

ARMY MANŒUVRES this year will be held on September 22, 23, and 24, over an area between Aldershot and Salisbury Plain, the contending forces being the Eastern Force (Blue), which is practically the Aldershot Command, and the Western Force (Red), which is practically the Southern Command. The manœuvres this year are to be on a more imposing scale than any held since the Armistice, and probably, under the reigning need for economy, none of equal importance will be held for some years to come. Naturally, the part played by the Royal Air Force will be correspondingly great. But before proceeding to detail the air arrangements, it may be well to scrutinize roughly the composition of the opposing armies. The Eastern Force (Blue) is far the stronger. Its backbone consists of three divisions (less two battalions) assisted by two brigades, one battery, and one survey company of artillery, a battalion of tanks, a brigade of cavalry, the 1st Air Defence Brigade (less six searchlights), and units of engineers, signallers, etc. The Western Force (Red) relies on only one regular division and one Territorial infantry brigade, supported by three brigades (less one battery) of artillery, two brigades of cavalry, a battalion of tanks and an armoured car company, and six sections of anti-aircraft artillery (each section being represented by one searchlight), besides the engineer and signal units. The Red Force is thus stronger in cavalry, and horse artillery as well as in signal units, but much weaker in infantry. It should, therefore, be the more mobile force.

There are four army co-operation squadrons of the Royal Air Force, Nos. 2, 4, 13 and 16, all equipped with Bristol Fighters. Such an air arm is quite insufficient for the needs of four divisions with their ancillary arms, and the Air Ministry has accordingly expanded this branch of the force for the time being by the addition of two fighter squadrons (Nos. 25 and 56, both on Grebes), and two day bombing squadrons (Nos. 39 and 207, both on D.H.9a's), while the School of Army Co-operation is turning out a special flight. Eight squadrons and one flight will, therefore, be employed on manœuvres.

The allocation of these squadrons between the forces is in accordance with the general plan. The Blue Force, as the less mobile, has the stronger air arm. To it are allotted Nos. 2, 4 and 13. Army Co-operation squadrons, No. 207 Bombing squadron, and No. 25 Fighter squadron. The Red Force gets No. 16 A.C. squadron, the special flight, No. 39 Bombing squadron, and No. 56 Fighter squadron. The latter is inferior in the air to the extent of one squadron and two flights of Bristol Fighters. Aeroplanes of the Western Force will be coloured red as regards the fuselage, the upper surface of both upper planes, and half the under surface of the lower planes. Eastern Force aeroplanes will not be specially marked.

In considering the composition of the air arms, it must be constantly borne in mind that these manœuvres are army manœuvres, the air arms ranking among the ancillary services of the two forces. Consequently, no attempt will be made to establish an "air supremacy" which might (if it were made thoroughly effective) result in one force being quite unable to manœuvre at all, while the other would have a mere walk-over. No attempt will be made to simulate air combats, and the fighter squadrons will be used only to attack ground targets, and will not interfere with each other or with the bombers and Bristol Fighters of the other side. In order to avoid marked unreality, instructions have been issued that aeroplanes are to avoid flying about singly amongst enemy aircraft at some distance within the enemy country. Pilots are not expected to be heroic, and when across the lines and outnumbered they are to retire to their own side of the lines. Pilots must avoid creating an impression of unreality by reckless low flying. The height at which they are to fly will depend upon various circumstances, such as weather, visibility, and the importance of the information which they are trying to obtain. Obviously some pieces of news are worth running risks for; and there will be a definite risk, namely, that of being put out of action by an umpire. In that case the information obtained, and any

photographs taken by the aeroplane in question, will not be used, if this can be avoided, and once communication has been established with the pilot, that aeroplane will not be used again the same day. As, however, wireless is not yet universal, and signals from the ground are very uncertain, it will usually not be possible to communicate with the pilot until he lands. A machine judged to have been shot down by small-arm fire may, therefore, continue to fly for a long time in ignorance that it has been theoretically shot down. But the longer it flies the more time there will be for getting instructions back to forbid the use of its information and photographs. A pilot who has run risks and gathered information would be wise to get back and deliver it as quickly as possible.

The matter will be simplified by night when the searchlights are at work. If a beam catches an aeroplane and the pilot cannot escape from it, the umpire will direct the light to "wink" three times as a signal that the aircraft is out of action. The pilot must acknowledge this by shutting off his engine and diving for a short distance, and will then return to his aerodrome.

It will be still easier to estimate the effects of aircraft attacks on ground troops and transport, but these will not be penalised in exactly the same way. When diving on to troops, the aircraft will fire blank from their machine guns, and bombs will also be considered to have been dropped. When bombing transport, the pilots will fire red Very lights. Damage to troops will be estimated as a complete knock-out, or 30 per cent., 20 per cent., 10 per cent., and so on. If a battalion is severely mauled by aircraft early in the day and its loss is estimated at 30 per cent., but later in the day it carries out an attack well, the umpires in judging the success of the attack will take the previous loss, material and moral, of the battalion into consideration. To leave 30 per cent. of the men behind when making the attack would obviously deprive them of valuable training while it would not represent the regiment's loss of moral. Consequently, it is best to leave the decision to the umpires.

Air umpires will play an important part in the manœuvres. There will be a R.A.F. signal centre, where the chief air umpire and his assistant will be located. The officers in question will be Wing-Commander J. T. Babington, D.S.O., and Squadron-Leader R. H. Peck, O.B.E. There will be an air umpire with each division and cavalry division, one with each infantry brigade and cavalry brigade, and six air umpires will be employed on each side for duty with searchlights. All the air umpires, except those with the anti-aircraft artillery, will be provided with motor-cars. They will either make periodical tours of the units belonging to their formation or will establish themselves at points from which they can obtain a good general view of the area with which they are concerned, and from which they can get quickly to any locality where an air attack may be taking place.

The air umpires will work with the army umpires in deciding the effect of air attacks on troops and transport and the effect of gun and small-arm fire on aircraft. In deciding the effect of an air attack, the air umpire will make a recommendation to the army umpire, who will then give a decision. When the aircraft come under fire the procedure will be reversed. In that case the army umpire will make the first recommendation and the air umpire, after considering the volume of fire, the height at which the aircraft are flying, and the evolutions carried out by the pilots to escape the fire, will decide whether any aeroplane has been put out of action.

The Royal Air Force will be adequately represented on the directing staff of the manœuvres as Air Vice-Marshal T. I. Webb Bowen, C.B., C.M.G., Wing-Commander T. L. Leigh-Mallory, D.S.O., and Squadron-Leader E. A. Beulah are all members of the Conduct of Operations Section. In the Collation and Criticism of Reports Section the R.A.F. is represented by Wing-Commanders A. S. Barratt, C.M.G., M.C., and E. L. Gossage, D.S.O., M.C., while the Air Defence, or anti-aircraft batteries, are represented by Major-General E. B. Ashmore, C.B., C.M.G., M.V.O., and Capt. M. B. G. Butterworth, M.C.

Egypt-India Civil Air Route

THE Air Ministry announces that arrangements for the opening of a Civil Air Route between Egypt and India have so far progressed that provisional heads of agreement have been concluded between the Air Ministry and Imperial Airways, Ltd., for the operation of a weekly service in each

direction between Kantara and Karachi. The maximum annual subsidy payable will be £87,000, and the duration of the agreement will be five years. Certain officials of the company, together with the Director of Civil Aviation, will leave this country in the course of the next few days in order to make a detailed survey of the route.

SIR PHILIP SASOON AT HALTON

Under-Secretary of State for Air Inspects Aircraft Apprentices' Training School

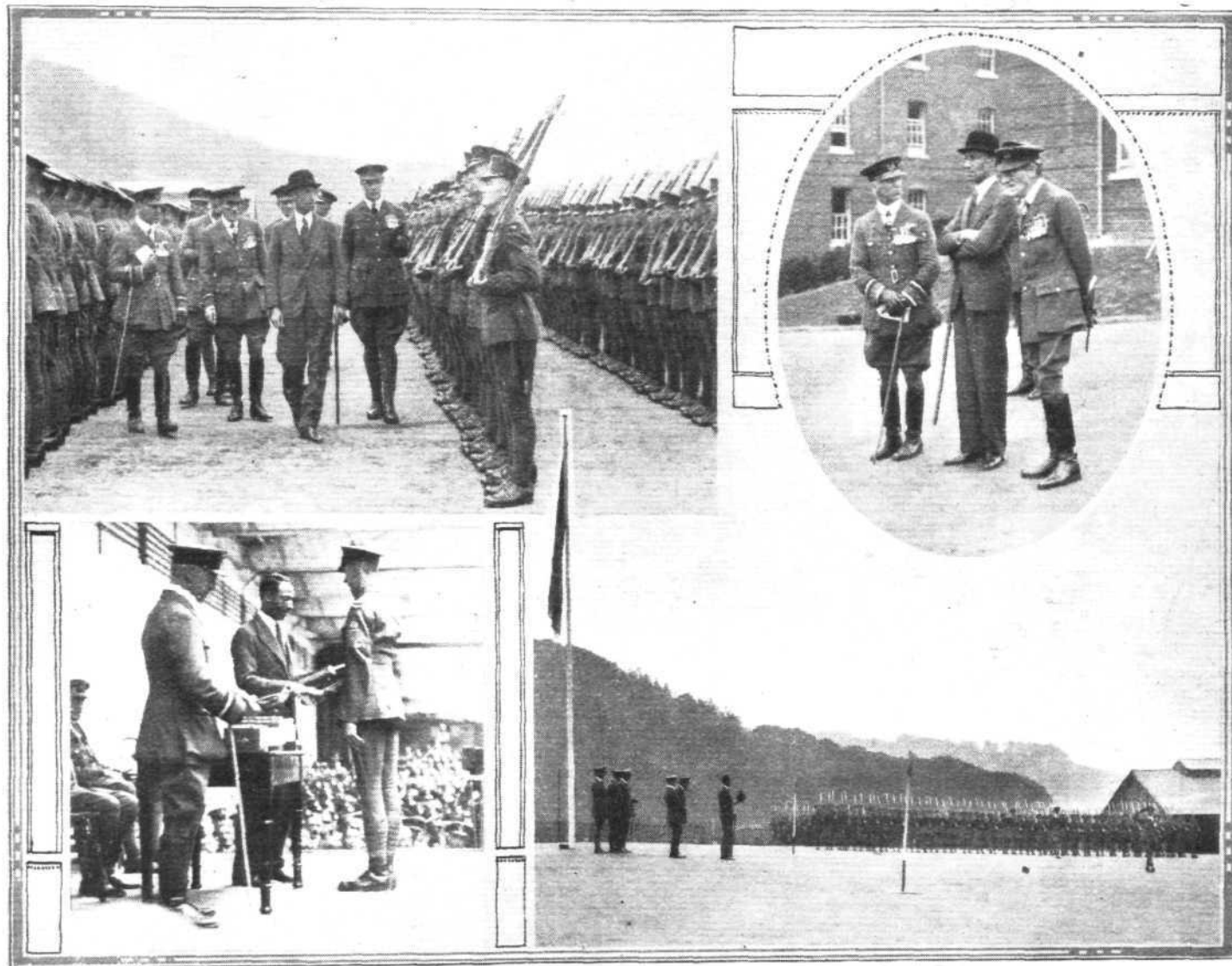
A visit of inspection was paid, on August 18, by Sir Philip Sassoon, Under-Secretary of State for Air, to the Aircraft Apprentices Training School at Halton, Bucks, on the occasion of the passing out of a large number of aircraft apprentices on completion of their three years' course of training. The total number of boys and young men at present undergoing training at Halton is approximately 3,000, and out of that number 684 passed out on the day of the visit.

At 2.30 there was a parade by the entire school, those passing out being distinguishable from the rest by the fact that they enjoyed the privilege of carrying rifles and bayonets.

should help gradually to raise the standard to a high degree of efficiency.

In the afternoon Sir Philip Sassoon presented prizes in the gymnasium, and in a short speech the Under-Secretary of State for Air said that it was not long ago that he made a similar official visit of inspection to the Air Cadet School at Cranwell. It was, he stated, particularly gratifying to him to find that the good work done there was being rivalled at Halton. That was as it should be.

Referring to the question of learning a useful trade, Sir Philip said that at Halton the apprentices were given a splendid opportunity of qualifying for an honourable pro-



SIR PHILIP SASOON AT HALTON: An Official Visit of Inspection was paid, on August 18, to the Training School at Halton, by Sir Philip Sassoon, who was accompanied by Air Vice-Marshal Scarlett. The two large photos show the Inspection and March Past respectively, while in the upper right-hand corner is seen Major Sir P. Sassoon, Bart., G.B.E., C.M.G., M.P., Under-Secretary of State for Air, with whom are Air Vice-Marshal Charles L. Lambe, C.B., C.M.G. (A.O.C. Halton), and Air Vice-Marshal Francis R. Scarlett, C.B., D.S.O. In the lower left-hand photograph the Under-Secretary of State for Air is seen presenting examination prizes

In the march-past the smart and soldierly bearing of the lads was most noticeable. This is well shown in one of our photographs.

After the parade Sir Philip Sassoon, who was accompanied by Air Vice-Marshal F. R. Scarlett, inspected the hospital and the new barracks, and a tour of inspection was then made of the various workshops where the lads were seen at work at their various trades, such as fitters, carpenter riggers, armourers, coppersmiths, turners, and pattern makers, and examples of their work were on view. The quality of the work produced by these boys and young men was very high and the distribution of the lads to air stations and units

fession, but it was also a very exacting profession. The first requisite in every profession, and more especially in the Royal Air Force, was a sense of discipline. Good work without discipline was largely thrown away, and it was impossible to do the best work without discipline.

On the question of the future career of the lads, Sir Philip reminded them that responsibility would often be laid upon them, and that they must learn the difficult task of making quick decisions. He pointed out that the standard of the Royal Air Force was built up by the character of each officer, non-commissioned officer, and man, and each could contribute something towards raising the standard of the whole.

AIR MINISTRY NOTICES

Cross-Channel Flights of Aircraft not Equipped with W/T Apparatus—Amendment

It is hereby notified:—

The arrangements for the reporting of cross-Channel flights by aircraft not equipped with W/T apparatus, notified in Notice to Airmen No. 40 of 1925, have been modified by the extension of the time-allowance for flights between Lympne and Ostend from one hour to two hours.

Paragraph (6) of the Notice above mentioned is accordingly amended to read:—

"(6) An aircraft, signalling in the manner indicated its

departure from either side of the Channel, which is not reported as having arrived on the other side within—

- (a) one hour on flights between Lympne and St. Inglevert or Calais; or
- (b) two hours on flights between Lympne and Ostend, will be treated by the Air Ministry as missing and steps taken to warn all shipping and to put in train such other action as may be possible to carry out a search and to effect a rescue."

(No. 46 of 1925.)

RESERVE OF AIR FORCE OFFICERS

New Scheme For Providing Pilots

THE Air Ministry announces that the expansion of the Royal Air Force, which is now proceeding, requires corresponding increases to be made in the strength of the Reserve of Air Force Officers. During the past few years the pilots' section of the Reserve has been maintained, on the one hand, by the transfer of short service commission officers on completion of their regular service in the Royal Air Force; and, on the other, by the engagement of war-time pilots and civil pilots.

While the Air Force is still prepared to engaged ex-pilots for service in the Reserve, it is realised that the supply from this source, and from the short service active list, will be insufficient to maintain the pilots' section at an adequate strength in the future.

It has, therefore, been decided to institute a new scheme which will enable the Air Force to draw upon the younger generation which has not had any flying experience, and applications are accordingly invited immediately from candidates for vacancies which now exist in the Reserve of Air Force Officers.

Applicants, who should be of good education and physique, but need not have had any previous flying experience, must be not less than 18 or more than 25 years of age, though consideration might be given in certain circumstances to suitable applicants who are slightly over the latter age. Those judged from their applications to be suitable will be interviewed by a Selection Committee, and those selected, after passing an examination by a Medical Board, will be gazetted to commissions in the Reserve as pilot officers on

probation. The probationary period is six months, after which, subject to satisfactory progress in training, etc., officers are confirmed in rank. Promotion to Flying Officer will normally take place after 18 months. Subsequent promotion may also be given in accordance with the regulations for the Reserve of Air Force Officers.

Reserve Commissions are granted in the first place for five years, but at the end of this period extension may be allowed at Air Council discretion for further periods each of not more than five years.

Flying training, which will be arranged, as far as service requirements admit, to take place at the civil flying school which is most convenient to the officer, will consist of a three months' course during the first six months of service, and six hours' solo flying during the second six months. In each subsequent period of 12 months' service he will carry out 12 hours' solo flying.

When undergoing training, or if called up for continuous service in an emergency, a Reserve officer will receive, generally speaking, the same pay and allowances as an officer of the same rank and branch on the active list. The present rates for a Pilot Officer, not provided with quarters, etc., amount to £1 4s. 11d. a day. In addition an annual retaining fee of £30 is payable, subject to compliance with training regulations.

Application forms and further details can be obtained by applying in writing to the Secretary (S.7 Reserve), Air Ministry, Adastral House, Kingsway, London, W.C. 2.

R.A.F. Flying Accident

THE Air Ministry regrets to announce that as a result of an accident near Ur, Iraq, to a D.H.9a of No. 84 Squadron,

Shaibah, on August 12, 1925, Pilot Officer John Jellett FitzGerald, the pilot of the aircraft, was killed, and No. 348,244 A.C. 1 Frank Edward Leatherdale, slightly injured.



THE HAWKER "HEDGEHOG": A Fleet Reconnaissance three seater, with Bristol "Jupiter" Engine. Three-quarter front view. (See also p. 533.)

THE ROYAL AIR FORCE

London Gazette, August 11, 1925

General Duties Branch

A. P. Wayte is granted a short service commission as a Pilot Officer on probation with effect from, and with seniority of, Aug. 5. Flying Officer A. P. C. Hannay, M.C. (Lieut., Cameron Hldrs.), is re-seconded for 1 year's duty with R.A.F.; July 29. Pilot Officer L. W. Coupe Annable resigns his short service commission; Aug. 12. Flying Officer Sir R. A. St. John Leeds, Bart. (Lieut., R.E., ret'd.), relinquishes his short service commission on account of ill-health; Aug. 12. Flight Lieut. J. P. H. Hayes (Capt., Lancs. Fus.) relinquishes his temporary commission on retirement from the Army; Aug. 1.

Stores Branch

The short service commissions of the following Pilot Officers on probation

are terminated on cessation of duty (Aug. 1):—F. Scutt, D. G. Vaughan, C. E. Burke.

Medical Branch

Flying Officer F. K. Wilson, M.B., is promoted to the rank of Flight Lieut.; Aug. 8.

Reserve of Air Force Officers

D. W. Forshaw is granted a commission in Class A, General Duties Branch, as a Flying Officer on probation; Aug. 4. The following are confirmed in ranks:—Flying Officers: S. C. O'Grady, M.C.; Aug. 10. K. G. Styles; Aug. 10. Pilot Officers: J. W. Brown; July 14. H. M. Samuelson; Aug. 3. L. C. Hillman; Aug. 10.

ROYAL AIR FORCE INTELLIGENCE

The Air Ministry announces the following appointments:—

Air Commodore E. R. Ludlow-Hewitt, C.M.G., D.S.O., M.C., to the Royal Air Force Staff College in command vice Air Vice-Marshal H. R. M. Brooke-Popham, C.B., C.M.G., D.S.O., A.F.C., to date April 1, 1926.

Air Commodore C. L. N. Newall, C.M.G., C.B.E., A.M., to the Air Ministry as Deputy-Chief of the Air Staff, vice Air Vice-Marshal J. M. Steel, C.B., C.M.G., C.B.E., to date May 1, 1926.

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commanders: C. C. Miles, M.C., to H.Q. Coastal Area for tech. staff duties; 5.8.25. B. L. Huskisson, D.S.O., to R.A.F. Base, Gosport, pending taking over command; 22.8.25. C. W. H. Pulford, O.B.E., A.F.C., to H.Q. Coastal Area, pending disposal; 17.8.25. F. E. T. Hewlett, D.S.O., O.B.E., to R.A.F. Base, Calshot; 7.9.25.

Squadron Leaders: R. G. Gardner, D.S.C., to H.Q. Coastal Area; 8.8.25. W. R. D. Acland, D.F.C., A.F.C., to R.A.F. Training Base, Leuchars; 8.8.25. H. Dawes, M.B.E., to H.Q. Special Reserve and Auxiliary Air Force; 18.8.25. E. B. Rice to No. 6 Group H.Q., Kenley; 14.8.25.

Flight Lieutenants: C. R. Richardson, to H.Q. Inland Area; 7.8.25. R. T. B. Houghton, A.F.C., to Mech. Transport Repair Depot, Shrewsbury; 13.8.25. E. W. Broadberry, M.C. to Air Ministry; 5.8.25. C. J. W. Hatcher, A.F.C., to Marine Aircraft Experimental Estab., Felixstowe; 13.8.25. G. C. O'Donnell, D.F.C., to R.A.F. Depot; 1.8.25. T. C. Traill, D.F.C., to R.A.F. Depot; 10.8.25. A. E. Case, to R.A.F. Reception Depot, West Drayton; 10.8.25. C. G. Halliday, to No. 1 Sch. of Tech. Training (Boys), Halton; 11.8.25. C. H. Awcock, O.B.E., to Aeroplane and Armament Experimental Estab., Martlesham Heath; 29.6.25. A. L. A. Perry-Keene, to Armament and Gunnery Sch., Eastchurch; 4.8.25. H. P. G. Leigh, to Inland Area Aircraft Depot, Henlow; 1.7.25. G. H. Harrison, D.F.C., to Air Ministry; 1.9.25. H. W. Heslop, to Armament and Gunnery Sch., Eastchurch; 31.8.25. H. O. Fellowes, to No. 1 Stores Depot, Kidbrooke, on transfer to Home Estab.; 27.8.25. D. W. Clappen, to H.Q. Coastal Area; 10.9.25. P. S. Jackson-Taylor, to No. 24 Sqn., Kenley; 14.9.25. D. W. King, to Mech. Transport Repair Depot, Shrewsbury; 1.10.25. S. T. Freeman, M.B.E., to H.Q. Coastal Area; 1.10.25. F. P. Adams, to Reception Depot, West Drayton; 24.9.25. H. L. Macro, D.F.C., A.F.C., to R.A.F. Training Base, Leuchars; 5.9.25. L. E. M. Gillman, to No. 58 Sqn., Worthy Down; 1.9.25. C. T. Walkington, to R.A.F. Base, Calshot; 6.9.25. R. J. Rodwell, to R.A.F. Staff College, Andover; 15.9.25.

Flying Officers: B. H. Godfrey, to No. 1 Flying Training Sch., Netheravon; 13.8.25. C. P. M. B. Caillard and F. W. Sinclair, D.F.C., to No. 1 School of Tech. Training (Boys), Halton; 13.8.25. H. H. S. Scott, D.S.M., to R.A.F. Base, Gosport; 7.8.25. S. Herbert and O. R. Pigott, to Boys' Wing, Cranwell; 7.8.25. G. F. Blackburn and I. Glyn-Roberts, to R.A.F. Depot; 29.7.25. W. N. Lancaster, to the Packing Depot, Ascot; 10.8.25. C. W. McK. Thompson, to Aeroplane and Armament Experimental Estab., Martlesham Heath; 13.8.25. J. M. Darroch, to Record Office, Ruislip; 29.7.25. G. M. Trundle, to No. 216 Sqn., Egypt; 4.7.25. J. W. Rose, to H.Q., Egypt; 7.8.25. E. A. Hodgson, to No. 208 Sqn., Egypt; 4.7.25.

I. Glyn-Roberts, to Record Office, Ruislip, instead of to R.A.F. Depot, as previously notified; 29.7.25. J. B. Lynch, C. B. Wincott, and J. M. Burd, M.C., to R.A.F. Training Base, Leuchars, on transfer to Home Estab.; 30.7.25. C. Ayling, to No. 2 Sqn., Manston; 17.8.25. H. A. Haines, D.F.C., to Sch. of Tech. Training (Men), Manston; 29.6.25. G. Lacey, to No. 3 Stores Depot, Milton; 20.8.25. A. H. H. MacDonald, to No. 22 Sqn., Martlesham Heath; 12.8.25. J. L. Wingate, to Armament and Gunnery Sch., Eastchurch; 4.8.25. (Hon. Flight-Lieut.) W. F. R. Gough, to No. 43 Sqn., Henlow; 22.7.25. F. W. Wrench, to No. 13 Sqn., Andover; 7.10.25. H. W. Beck, to R.A.F. Depot, on transfer to Home Estab.; 1.8.25. R. W. Holden, to No. 60 Sqn., India; 4.7.25. G. Horsfield, to R.A.F. Depot, on transfer to Home Estab.; 12.8.25.

Pilot Officers: H. R. Gillespie, to No. 2 Flying Training Sch., Digby, on transfer to Home Estab.; 20.7.25. A. P. Wayte, to R.A.F. Depot, on appointment to a Short Service Commn.; 5.8.25. J. A. T. Ryde, to No. 43 Sqn., Henlow; 13.7.25. E. C. Boucher, to No. 23 Sqn., Henlow; 1.7.25.

Stores Branch

Flight-Lieutenants: C. E. Cullen, to Mech. Transport Repair Depot, Shrewsbury; 11.6.25. H. V. Robbins, to No. 1 Stores Depot, Kidbrooke; 10.8.25.

Flying Officers: J. C. Shakeshaft, to No. 502 Sqn., Aldergrove; 17.8.25. W. Bourne, to No. 1 Stores Depot, Kidbrooke; 10.8.25.

Pilot Officers: A. J. Walker, to No. 1 Stores Depot, Kidbrooke; 10.8.25. The undermentioned Pilot Officers are all posted to No. 1 Stores Depot, Kidbrooke, on appointment to Short Service Commns. (on probation), with effect from 10.8.25:—E. H. Broad, L. F. Caunter, E. G. M. Charleson, R. H. Clay, J. Cumming, D. J. Divett, G. H. Doveton, F. W. Felgate, E. J. Fishenden, C. P. Marshall, P. J. Mote, P. P. S. Rickard, L. Taylor, and J. E. Welman.

Medical Branch

Squadron Leader: A. J. Brown, D.S.O., to R.A.F. Officers' Hospital, Uxbridge; 13.7.25.

Flight-Lieutenants: A. Briscoe, M.B., to R.A.F. Officers' Hospital, Uxbridge; 13.7.25. A. B. H. Cole (Dental), to H.Q., Halton; 1.8.25.

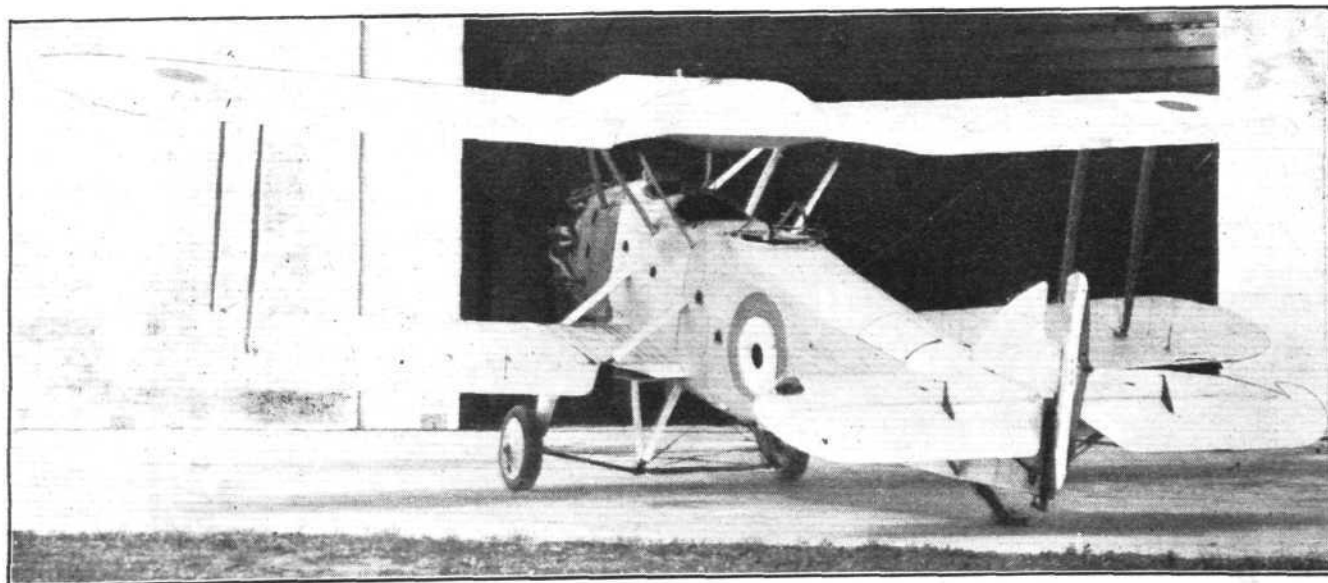
Flying Officers: F. L. White, to Aeroplane and Armament Experimental Estab., Martlesham Heath; 13.8.25. F. W. Goodread (Q.M. Medical), to R.A.F. Officers' Hospital, Uxbridge; 13.7.25.

NAVAL APPOINTMENTS.—The following appointments were made by the Admiralty on August 15:—

Lieutenants (F.O., R.A.F.): L. C. Sharman, T. O. Bulteel, K. A. B. Hutson, R. C. Allen, J. N. Sparks, R. A. Aldridge, G. F. Renwick, R. H. Langton, E. W. E. Lane, W. M. Healing, F. G. Wynne, T. H. Villiers, G. H. Birley, A. A. Murray, F. H. G. Oliphant, G. Willoughby, and E. O. F. Brice, to R.A.F. Training Base, Leuchars; R. J. Berry, A. P. Colthurst, and J. E. Wallace, to R.A.F. Base, Gosport; Aug. 10.

Royal Marines

Lieutenants (F.O., R.A.F.): A. B. Woodhall, to R.A.F. Base, Gosport; R. H. S. Trek, T. L. G. Bryan, C. F. L. Hollford and O. C. Jones, to R.A.F. Training Base, Leuchars; Aug. 10.



THE HAWKER "HEDGEHOG": Three-quarter rear view. Note the petrol gravity tank in the top centre-section. The wings are designed to fold. (See also p. 533.)

IN PARLIAMENT

British Imperial Airways

SIR F. HALL, on August 6, asked the Secretary of State for Air what services are now being flown by British Imperial Airways; whether the company have discontinued any and, if so, what services; whether they have in contemplation the cessation of other services, and what is the number of efficient machines now operated by the company; and whether any and, if so, what payments are made to them by the Government?

Sir Samuel Hoare: As regards the first part of the question, services are in operation between London and the following cities, namely, Paris, Zurich (via Paris and Basle); Cologne (direct); Cologne (via Brussels); Ostend and Amsterdam. As regards the second part, the Southampton-Guernsey and Amsterdam-Berlin services have been discontinued, but the former service will shortly be resumed. As regards the third part, so far as I am aware the company do not propose to discontinue any other services. As regards the fourth part, there are 12 efficient machines in operation excluding experimental machines under test for the Air Ministry. As regards the last part, payments are made to the company in accordance with the agreement scheduled to that concluded in December, 1923, with the British, Foreign and Colonial Corporation, Ltd., and then published as a White Paper.

Sir F. Hall: Is it a fact that the Imperial Airways have only 12 efficient machines to carry out the whole of the work of civil aviation in this country?

Sir S. Hoare: Yes, that is exactly the question put by my hon. and gallant friend, and my answer mentioned 12 machines. There are other machines under construction.

Sir F. Hall: For the Imperial Airways?

Sir S. Hoare: Yes.

Airships and Thunderstorms

COMMANDER BELLAIRS, on August 7, asked the Secretary of State for Air whether the new airships and the reconditioned airship are to be filled with hydrogen or a mixture of hydrogen and helium; and whether experience shows that it would be unsafe to discharge hydrogen in a thunderstorm?

Sir S. Hoare: As regards the first part of the question, it is proposed, for the reasons given in my reply to the hon. member for West Willesden (Mr. Viant) on July 9, to use hydrogen for the experimental flights contemplated in the present programme. As regards the second part, I understand that it is the practice among airship pilots to avoid discharging hydrogen in the neighbourhood of thunderstorms, but no actual evidence of the dangerous results of such discharge is available.

Commander Bellaairs asked the Secretary of State for Air whether he is aware of the great prevalence of thunderstorms in the neighbourhood of Java; to what extent R.33 deviated in her journey to America in order to avoid thunderstorms; and whether the tenders for the new airship, and the design of the Government airship, make specific provision for safety against lightning?

Sir S. Hoare: The answer to the first part of the question is in the affirmative; to the second, that the R.34 (the airship concerned) deviated a distance of approximately 50 miles to skirt a thunderstorm in her outward journey; to the third, that the position in regard to the contract airship was explained in my reply to my hon. and gallant friend on March 17 last, and, as regards the Government airship, that the question of safety precautions against lightning is under consideration.

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CROYDON AERODROME IMPROVEMENT SCHEME

It is with satisfaction we note that the improvement scheme now in hand for Croydon aerodrome provides for the removal of the aeroplane sheds, administrative offices and control tower from the centre of the aerodrome to the north-east corner, since, as has previously been pointed out in FLIGHT, their present position provide an obstruction entailing considerable preliminary taxi-ing in order to reach a favourable position for taking off. The prevailing wind is from the south-west, so that aircraft usually need to take off in that direction. In present circumstances a machine has to be taken off either to the left or right of the administrative centre, the island block created by their present situation causing obstruction which leaves the pilot of a machine little freedom in the matter of choice. It will be some years before the whole of the obstructions can be removed, but the new scheme provides for the demolition of the outer buildings of the island site, thus widening the space between the old sheds and Plough Lane.

The improvement will take place in stages and when completed the London Terminal Airport should be the finest civil aerodrome near London, when the whole aerodrome is left free of obstruction and all buildings are concentrated in the north-east corner. Passengers using air transport will also benefit considerably, since the new scheme will eliminate the long ride down Plough Lane to the point of departure. The terminal buildings will be very near the main road, and also quite close to Waddon Station. Meanwhile, one contract has already been let for the steelwork of the first of the new permanent sheds in the north-east corner, and it is now only a matter of days before the second order is placed. Each shed will be 300 ft. wide by 150 ft. deep, and will be divided into two bays of 150 ft. each. It is anticipated that it will take 18 months before the sheds are completed and when ready for occupation some of the aircraft using the old sheds will be transferred to their new home. It is to be hoped that the work will progress with rapidity, and, no doubt, when completed, it will prove a veritable boon to pilots, who for some time must continue to put up with the irritable conditions now existing.

IMPORTS AND EXPORTS, 1924-1925

AEROPLANES, airships, balloons and parts thereof (not shown separately before 1910). For 1910 and 1911 figures see "FLIGHT" for January 25, 1912; for 1912 and 1913. see "FLIGHT" for January 17, 1914; for 1914, see "FLIGHT" for January 15, 1915; for 1915, see "FLIGHT" for January 13, 1916; for 1916, see "FLIGHT" for January 11, 1917; for 1917, see "FLIGHT" for January 24, 1918; for 1918, see "FLIGHT" for January 16, 1919; for 1919, see "FLIGHT" for January 22, 1920; for 1920, see "FLIGHT" for January 13, 1921; for 1921, see "FLIGHT" for January 19, 1922; for 1922 see "FLIGHT" for January 18, 1923; for 1923, see "FLIGHT" for January 17, 1924; and for 1924, see "FLIGHT" for January 22, 1925.

	Imports.		Exports.		Re-Exports.	
	1924.	1925.	1924.	1925.	1924.	1925.
Jan. . .	2,213	3,546	52,239	83,728	2,219	291
Feb. . .	920	985	26,349	85,639	335	20
Mar. . .	11,381	—	34,113	56,881	509	9,355
Apr. . .	373	321	56,998	78,041	6,014	6,732
May . .	3,426	560	125,138	74,844	4,162	15,278
June . .	1,219	190	87,629	71,009	2,115	667
July . .	1,510	184	179,292	159,262	2,708	870
	21,042	5,786	561,758	609,404	18,062	33,213

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PUBLICATIONS RECEIVED

Aeronautical Research Committee Reports and Memoranda No. 962 (Ae. 178). Discontinuous Flow Around the Edge of a Bluff Obstacle. By L. W. Bryant and D. H. Williams. January, 1925. H.M. Stationery Office, Kingsway, W.C. Price 1s. net.

The Accessory. July, 1925. Vol. II, No. 118. Brown Brothers, Ltd., Great Eastern Street, London, E.C.2.

The Air Pilot Monthly Supplement. No. 9. July, 1925. Air Ministry, Kingsway, London, W.C.2.

Regulations for Admission to the Royal Air Force Cadet College, Cranwell. Air Publication 121. H.M. Stationery Office, Kingsway, London, W.C.2. Price 6d. net.

Luftverkehr mit Junkers-Flugzeugen. Flugplan. June, 1925. *Junkers-Luftverkehr Nachrichtenblatt, Vol. III, No. 10.* June 30, 1925. Junkers-Flugzeugwerk Akt.-Ges., Dessau, Germany.

All the World's Aircraft. 1925. Compiled and Edited by C. G. Grey. Sampson, Low, Marston and Co., Ltd., 100, Southwark Street, London, S.E. Price £2 2s. net.

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AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1924

Published August 20, 1925

- 10,117. A. ROHRBACH. Structural combinations of duralumin with other metals. (237,341.)
10,169. H. LEITNER. Screw propellers. (237,345.)
10,189. H. F. PARKER. Airships. (237,346.)
10,301. J. R. PORTER. Aeronautical machines and engines. (237,350.)
10,432. R. L. G. LE GRAY. Carburetors for use on aircraft. (237,356.)

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